

(19) World Intellectual Property
Organization
International Bureau



23 MAR 2005



(43) International Publication Date
8 April 2004 (08.04.2004)

PCT

(10) International Publication Number
WO 2004/029261 A3

- (51) International Patent Classification⁷: **C12P 23/00**,
C12N 9/02
- (21) International Application Number:
PCT/EP2003/010294
- (22) International Filing Date:
16 September 2003 (16.09.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
02021600.8 27 September 2002 (27.09.2002) EP
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
27 May 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PRODUCTION OF CANTHAXANTHIN BY PHAFFIA

(57) Abstract: Disclosed is a process for producing canthaxanthin and echinenone which comprises cultivating a recombinant microorganism which is expressing a β -carotene ketolase gene and belonging to the genus *Xanthophyllomyces* (Phaffia) in an aqueous nutrient medium under aerobic conditions, and isolating the resulted carotenoids from the cells of said recombinant microorganism or from the cultured broth.

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 03/10294

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12P23/00 C12N9/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12P C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 291 204 B1 (PASAMONTES LUIS ET AL) 18 September 2001 (2001-09-18) cited in the application column 1 column 5	1-8
X	US 6 365 386 B1 (HOSHINO TATSUO ET AL) 2 April 2002 (2002-04-02) cited in the application column 1 -column 4	1-8
Y	EP 1 111 067 A (HOFFMANN LA ROCHE) 27 June 2001 (2001-06-27) page 1	1-8
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

21 January 2004

Date of mailing of the international search report

01/03/2004

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INTERNATIONAL SEARCH REPORT

International Publication No

PCT/EP 03/10294

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>MISAWA NORIHIKO ET AL: "Canthaxanthin biosynthesis by the conversion of methylene to keto groups in a hydrocarbon beta-carotene by a single gene" BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, vol. 209, no. 3, 1995, pages 867-876, XP002264744 ISSN: 0006-291X abstract; figure 5</p>	1-8

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PCT/EP 03/10294

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